

REMARKS/ARGUMENTS

The present amendment is in response to the Office Action dated June 5, 2008. Applicants have also filed herewith a Request for Continued Prosecution, and a one-month extension of time.

Applicants filed an Information Disclosure Statement (IDS) on July 24, 2008, and the fee for this IDS on July 28, 2008. Applicants request that the Examiner acknowledge the references cited in the IDS, by returning to Applicants' undersigned representative a signed, initialed and dated copy of the corresponding PTO/SB/08 forms.

Claims 1-11 and 21-28 are pending in the present application. Claim 1 has been currently amended, and new Claims 26-28 have been added. Support for amended Claim 1 can be found on page 14 of the specification. Support for new Claims 26 and 27 can be found on pages 6 and 3, respectively, of the specification. Support for new Claim 28 can be found on pages 14, 15 and 17-20 of the specification. No new matter is believed to have been introduced by the amended and new claims.

Claim Rejections under 35 U.S.C. § 103 (a)

The Examiner rejected Claims 1-11 and 21-25 under 35 U.S.C. § 103 (a), as unpatentable over JP 2001-226509 (hereinafter the JP509 reference), in view of U.S. Patent 6,364,988 (hereinafter the '988 patent). Applicants respectfully traverse for the following reasons.

Prior art must be considered in its entirety, including disclosures that lead away from the claims (see MPEP 2141.02, Section VI). The JP509 reference does not teach or suggest the invention as claimed. This reference teaches that its foam resin sheets may contain an inorganic filler at 5 weight percent of the total weight, as a limit (see paragraph [0043]). Thus, this reference makes clear that a 5 weight percent filler loading is the upper limit for its foam structures. In addition, Applicants claim a foam density greater than, or equal to, 250 kg/m³. JP509 desires foam sheets with an apparent density from 100 g/L to 200 g/L (kg/m³), and preferably from 120 g/L to 180 g/L (see, for example paragraphs [0011] and [0017]). Moreover, JP509 teaches that if

the apparent density is less than 100 g/L, the foaming expansion ratio is too high, the air cells become large, and the sheet appearance becomes poor (see paragraph [0017]). Also this reference teaches that if the apparent density is greater than 200 g/L, the expansion ratio is too low, air cells become smaller, and the weight per unit area of the sheet increases. These results undesirably increase the weight of the foam sheet (see paragraph [0017]). Thus, the JP509 reference teaches away from the invention as claimed. The '988 patent does not overcome the deficiencies of the JP509 reference.

Therefore, for at least these reasons, the JP509 reference, in view of the '988 patent, does not teach or suggest the invention as claimed. Applicants respectfully request the withdrawal of this rejection.

The Examiner rejected Claims 1, 2, 5-9, 21-23 and 25 under 35 U.S.C. § 103(a), as unpatentable over U.S. Publication No. 2002/0035164 (hereinafter the '164 publication), in view of the '988 patent. Applicants respectfully traverse for the following reasons.

The '164 publication does not teach or suggest the invention as claimed. This publication is primarily directed to rigid foam polypropylene sheet (for example, see abstract and paragraph [0013]). This publication teaches, in one embodiment, that a sheet may have a very thin surface layer having a thickness to core thickness ratio of 1/1000, and preferably 1/2000 (see paragraph [0057]). All of the examples are monolayer foams, which fall outside the scope of the pending claims. In addition, Examples 7-12 (see Table IV) have grammage values ranging from 543 g/m² to 891 g/m², which are also outside the scope of the pending claims. Applicants have shown that a Grammage value between 100 and 500 provides a good compromise between structural stability requirements and the cost of manufacture. Also, the combination of Grammage and Geometric Mean Bending Moment, as claimed, allows the inventive sheets to be useful in carton board conversion machines (see pages 3 and 5 of the present application). The '164 publication does not teach or suggest the combination of features in Claim 1. The '988 patent does not overcome the deficiencies of the '164 publication.

For at least these reasons, the '164 publication, in view of the '988 patent, does not teach or suggest the invention as claimed. Applicants respectfully request the withdrawal of this rejection.

The Examiner rejected Claims 3, 4, 10 and 24 under 35 U.S.C. § 103 (a), as unpatentable over the '164 publication, in view of the '988 patent, as applied to Claim 1, and in further view of the JP509 reference. Applicants respectfully traverse for the following reasons.

As discussed above, the '164 publication, in view of the '988 patent, does not teach or suggest pending Claim 1. The JP509 reference does not overcome the deficiencies of these references. Therefore, for at least these reasons, the '164 publication, in view of the '988 patent and the JP509 reference, does not teach or suggest the invention as claimed. Applicants request the withdrawal of this rejection.

The Examiner rejected Claims 1-11 and 21-25 under 35 U.S.C. § 103 (a), as unpatentable over the '988 patent, in view of the JP509 reference. Applicants respectfully traverse for the following reasons.

The '988 patent does not teach or suggest the invention as claimed. The Examiner has stated that the '988 patent teaches a multi-layered sheet that has a thickness of 250 microns. The Examiner then asserts that the foam layer has a thickness of about 8 times that of the non-foam layer, and apparently concludes that the total sheet thickness would be within the claimed range. However, here, the thickness of the foam layer is relative to the thickness of the non-foam layer, and not relative to the thickness of the total sheet (or not eight times the thickness of the multi-layered sheet). Prior art must be considered in its entirety, including disclosures that lead away from the claims (see MPEP 2141.02, Section VI). The '988 patent teaches that the total thickness of a paper sheet ranges from 25 μ m to 250 μ m (for example, see Title of Invention, Abstract, Field of Invention, Summary of Invention, table shown on column 6, and Embodiments 1-3). Thus, the '988 patent requires a paper thickness from 25 to 250 μ m, and teaches away from paper thicknesses outside this range. Applicants have specified that a sheet thickness from 0.3 to 1.5 mm, and

more preferably from 0.5 to 1.5 mm, is desirable in terms of the following: preventing sheet deformation when the sheet is fed to a conversion machine, providing good structural stability, and reducing the cost of manufacture. A sheet thickness from 0.5 mm to 1.5 mm provides the best compromise between structural stability and cost of manufacture (see page 3, lines 1-15 of the present application). In addition, the grammage for each of the experimental papers of the '988 embodiments (see column 7 to column 10) approximately ranges from about 42 g/m² to about 91 g/m², which is clearly outside the claimed invention.

Thus, the '988 patent does not teach or suggest the invention as claimed, and the JP509 reference does not overcome the deficiencies of the '988 patent. Therefore, for at least these reasons, the '988 patent, in view of the JP509 reference, does not teach or suggest the invention as claimed. Applicants request the withdrawal of this rejection.

Applicants respectfully submit that the present amendment is now in condition for allowance, and request notice of such action. If further issues remain, Applicants request that the Examiner contact Applicants' undersigned representative.

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Respectfully submitted,

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